

THE INFLUENCE OF REFUGEE CAMPS TO THE SURROUNDING COMMUNITIES IN DEVELOPING ECONOMIES; A CASE OF MAHAMA REFUGEE CAMP IN KIREHE DISTRICT, RWANDA.

A work submitted in partial fulfilment of the requirements for the degree of Master's in International Cooperation and Humanitarian Aid.

Ce devoir fait partie d'un ensemble d'épreuves nécessaires à la validation d'un programme de master en coopération internationale et aide humanitaire

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1.2 DECLARATION BY AUTHORS

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1.3 ACKNOWLEDGEMENTS

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1.4 DEDICATION

Special dedication of this Thesis goes to those who contributed all kinds of support to get this far whether financial and constructive ideas, this is for you.



2 ABOUT THIS DOCUMENT

2.1 CATEGORIES

Country	Document Type	Subject	Institution	Language
Rwanda	A case study dissertation	Camp Management	Humanitarian Assistance Humanitarian principles Migration Assistance Refugees Research	UNHCR English



2.2 ABOUT AUTHORS



KIBERINKA Jacky who was born on 10th January 1988, is a peacekeeper in Southern Sudan since two years ago until the present under the UN Mission in partnership with the current government of Rwanda and its Army forces to maintain International Peace and Security. She is Rwandan married woman with one husband and daughter. In 2019 she graduated from University of Lay Adventists of Kigali, making Jacky vigilant to realize the real world situation.

Jacky is now a Captain in Rwanda Defence Force (RDF) and UN effort. During her career journey, from November, 2019 UN Gender desk, South Sudan Chapter appointed her as a Gender officer to present. She likes volunteering in humanitarian actions towards stateless and internally displaced people in the way that could help them to revive again.



Viviane MUSABWAMANA who was born on 2nd February 1992 in Rwanda, is a Biomedical engineer. She has advanced diploma in Biomedical Technician, Bachelor in Biomedical engineering and currently enrolling Master of Science in Biomedical engineering. Viviane worked in Kacyiru Hospital (district Hospital) and King Faisal Hospital (Teaching Hospital) as a volunteer. Today she is serving at HOLCE LTD (Medical equipment wholesale) as a Biomedical Engineer.

Viviane is part of Humanitarian volunteers (per time) in concern and care for the needy in Rwanda. Viviane works with professionalism and flexibility, looking for development with competence and more importantly she is a committed woman. She is married with one son.

2.3 EXECUTIVE SUMMARY

The movement of people whether internal or external to the country creates both instant and long lasting effects towards social, political, economic and environment aspect of the host communities. This study explored the influence of refugee camps to the surrounding communities in developing economies with reference Mahama camp located in Eastern part of Rwanda. The study determined the cash out activities involved refugee population in the host community, evaluated the level of environment conservation in Mahama community and quantified the statistical relationship between refugee population activities and environmental conservation as the specific research objectives. The study was descriptive in nature. Both primary and secondary data were used thereby primary data was collected from 494 respondents including both Burundians and Rwandans for the accuracy and reliability of information gathered. Research instruments used were survey forms (questionnaire) and interview guide tool during data collection to ensure that data is reliable to yield sensitive results. The study found that the leading sectors of participation for refugee population are forest exploitation, crop production and micro-business activities due the fact that the entrance cost is not expensive accompanied with the easy access for the raw materials. The study also found negative effects over environment features due to over exploitation of natural resources mainly land and forest and some positive effects in social and economic terms derived from close collaboration in different business activities including raw material supplying and business consultation often involved Rwandans. The study investigated whether there is significant relationship between refugee population activities and environmental conservation and Spearman's correlation coefficient found a weak correlation equal to .325** implying that refugee population activities negatively affect environmental conservation to hinder effective management. Therefore, the study concluded that there is a weak correlation between refugee population activities and environmental conservation, in other words, negative impacts of refugee population activities overwhelms positive impacts in the way of environmental conservation to thrive. The study ends by suggesting Mahama camp management to unite refugees in cooperative according to their sectors of business activities to make easier supplying raw materials and train them the importance of conserving environment features so that the implementation of environment related measures might be done successful and easily with minimum supervision because the cooperative representatives will be assigned to ensure the full compliance of their members.



2.4 LIST OF ABBREVIATIONS AND ACRONYMS

#: Percentage

+: Sign plus

CRRF: Comprehensive Refugee Response Framework

DRC: Demographic Republic of Congo

FDGs: Focus Group Discussion

KIIs: Key Informant Interviews

MINEMA: Ministry of Emergency Management

SPSS: Statistical Package for Social Science

UN: United Nations

UNHCR: United Nations for High Commission Refugee

USD: United States Dollars

WHO: World Health Organization

2.5 GLOSSARY

Sector: The meaning of sector in the administration of the government of Rwanda, is the second administration layer down to the district level in the local government leadership.

Umuganda: According to the Government of Rwanda, Umuganda is a community term often used to express community works held at the end of every month which involve every person dwell in Rwanda territory and included in labour force from 18 to 65 years old. It is in Kinyarwanda the country language.

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3 INTRODUCTION AND BACKGROUND OF THE STUDY

3.1 Introduction

The first part of this thesis concern more about background of the study, statement of the problem, research objectives and questions, and significance, scope, and limitations of the study, and then description of the study area as well to give a reader the perceptive orientation of the study coverage.

3.2 Background of the study

Since its inception around 1950s, UNHCR been established during the aftermath of the Second World War, to help millions of Europeans who had fled or lost their homes. Today is still hard at work, protecting and assisting refugees around the world. Six years later, UNHCR led efforts to resettle about 200, 000 fled to Australia due to Hungarian revolution, which, this uprising and its aftermath shaped the way humanitarian organizations would deal with refugee crisis in the future.

Globally, “Europe hosts the largest number of international migrants (82 million), followed by Northern America (59 million) and Northern Africa and Western Asia (49 million). The regional distribution of international migrants is changing, with migrant populations growing faster in Northern Africa and Western Asia and in sub-Saharan Africa than in other regions”, (UNHCR migration report, 2019).

Ever since then, “The Africa has been experiencing migrant people since 1560s under the decolonization that made the continent’s numerous refugee crisis, which awaken UNHCR to help uprooted people in Asia and Latin America and this led to the organization to become the worldwide right hand to refugees with two Noble Peace Prizes. The start of the 21st century, UNHCR allocated more effort to deal with major refugee crises in Africa, the Middle East and Asia. It has also been asked to use its expertise to help many forced displacements by conflict and expanded their role in helping vagrant societies particularly of Africa and Latin America”, (UNHCR, 2021).

In fact, “Low and middle income countries host the majority of refugees worldwide, a recent estimates in 2017 confirmed that around 83 per cent of all refugees and asylum seekers resided in less developed regions, while only 17 per cent lived in more developed regions. Middle-income countries hosted almost two thirds of refugees and asylum seekers, whereas low-income and high-income countries hosted 19 and 16 per cent of the global refugee stock, respectively. Almost these countries with big number of refugees, local communities mostly experience poverty and extremely poverty and face economic vulnerability due to scarcity of resources. In this sense, their economic



condition seems complicated compared to those seeking exile in their communities”, (UNHCR, 2018).

This situation therefore lead to the creation of competition over scarce resources between local hosts and refugee population and result into raised environmental tension within the society. “Despite the fact that social cohesion, the social influence of hosting refugees on existing environment has remained an understudied area of inquiry. The impact of displacement on host communities has been primarily investigated in relation to economic and environmental effects”, (for instance Kreinbaum, 2016). “It is therefore important to get in-depth the analysis of environmental impacts and take into consideration how surrounding environment is affected by the presence of refugees ensuring that not only prosperous, but also maintaining environmental health safeness within the hosting society”, (Kreinbaum, 2016)

In the early 2015, “Rwanda experienced a sudden mass influx of approximately 3, 000 Burundian refugees arrivals per day received in two reception centres near the Rwanda-Burundi border, which led the government of Rwanda to open Mahama camp with approximate 76, 0000 refugees resided while the number has been increasing over time. Three years later, The Government of Rwanda officially accepted the application of the Comprehensive Refugee Response Framework (CRRF) in February 2018 and continues to contribute to the progressive implementation of the Global Compact on Refugees. Rwanda made nine pledges at the Global Refugee Forum in December 2019, which focused on education, livelihoods, protection, environment, energy and health. Despite the COVID-19 pandemic, Rwanda was the first country in the East and Horn of Africa and Great Lakes region to develop thematic action plans for each pledge. All operational responses are in line with this inclusive protection and solutions approach and UNHCR will continue to closely follow up with the Government on the implementation of pledges in 2021. However, as the Burundi refugee crisis approaches its sixth year, the situation has stabilized, and following national elections in May 2020, UNHCR assisted some 8,000 Burundians who expressed a desire to return home to repatriate from Rwanda in 2020, with more than 40,000 returns anticipated in 2021”, (UNHCR, 2020).

Despite the evident that the inclusion of refugees in the society significantly increase the population size of the hosting community, various difficulties been experienced by hosting environment to refugees ever since then including land degradation, water and air pollution and global warming as well due to different activities involved refugees seeking access to adequate shelter, clean water, and food for their families while MINEMA, other relevant government departments and partners have been striving to protect and promote the nature of hosting environment in one way or another. For instance, “during the year 2019 the Misizi marshland project improved the food security, social cohesion and income of more than 1,400 refugee and host community farmers, Urban refugees were



able to access the national health insurance system, All camps shifted to clean energy cooking, Establishment of an ETM in Rwanda”, (UNHCR, 2019).

The same year, Mahama camp experienced clean water supply which was below standards (at an average of 13.8 litres per person per day as compared to the standard of 20 litres per person per day), there was a lack of school facilities (90 students per classroom), and there were recurrent challenges in maintaining the provision of food assistance, Land scarcity resulted in the congestion of refugee camps and limited opportunities for agricultural projects, and reduced support for self-reliance activities, with under 17,000 refugees engaged in income-generating activities during the year. These reduced environmental intervention activities. In this context, the study attempts to empirically investigate the influence of refugee camp to the surrounding environment of Mahama camp settlement in Rwanda. Hence, the broad objective of this study is to empirically investigate and assess the refugee population activities’ influence on local host environment around Mahama camp located in Kirehe district, Rwanda.

3.3 Statement of the Problem

The influences of hosting Burundian refugees are worth considering. Despite the fact that refugees outnumber the local host community the displacement of people whether internal or external the country boundaries poses threat on livelihood of the community to left back significant burden on environmental health and social network development striving for growing integration with the host community services, for instance, the dividers/distributors of food and non-food items mutually perceived as inequality or unequal treatment on both communities.

Mahama refugees population and the community surrounds the camp perceived as having friendship each other due to cultural traditions, language and customs seem very similar for both communities albeit the competition towards life services remain unchanged, this lead them engaged into various activities result into environmental degradation and social conflicts arise. By statistics of causal effect concern, the population of Burundian population in Mahama is over 80% women and children who are vulnerable to risk of sexual gender-based violence, only 39% of children of the refugee population returned back to school due to limited classrooms, which led to the formation of ganger groups in the community, and about 100% of refugees are overcrowded in hangars due to expensiveness of emergency shelters and semi-emergency shelters construction not going up fast, which accelerate the rate of deforestation, hence global warming.

On the ground of the above reasonable facts, we have prompted to investigate the influence of refugees’ camp to its surrounding (local host community) by counting on the main activities mutually served by both communities like mining, livestock farming, carpentry, and construction



and result into experiencing mutual risks of destroying those benefited environmental features and stagnate economic development of the host community.

3.4 Research objectives

The present section was split into broad and specific objectives

3.4.1 Broad objective

The undertaken study had broad objective of investigating the influence of refugee camps to the surrounding communities in developing economies with reference to Mahama refugees' camp with surrounding communities domiciled in Kirehe district, Rwanda.

3.4.2 Specific objectives

In order to support the broad objective and arrive at sensitive results, the study aimed at:

1. Identifying and discussing the activities/practices that involved refugee population in Mahama sector;
2. Evaluating the achieved and targeted level of environmental conservation in Mahama sector; and
3. Investigating whether there is significant relationship between refugee population activities/practices and environmental conservation in Mahama sector.

3.5 Research questions

To fulfil the intended research objectives, the following research questions were answered:

1. What are the activities/practices that involved refugee population in Mahama sector?
2. Is there any achieved and targeted level of environmental conservation in Mahama sector?
And
3. Is there any significant relationship between refugee population activities/practices and environmental conservation in Mahama sector?

3.6 Significance of the Study

The final product will serve as a reference for upcoming researchers as a guidance and provide them important kits from findings of previously conducted research, which will offer an opportunity to detect the left gap to be filled. Another relevance of this research project is that it will be of the help to the international humanitarian aid organization responsible for refugee's needs to inform them about the necessary issues associated with refugee camps and environment they operate in so that they can have solution for them. Further, environmental health organizations will need this study



findings to check whether the environment is quite safe from any destruction that might affect people's living within long run.

3.7 Scope of the Study

By content, the present study was limited to the investigation of the refugee population activities to influence the environmental safeness in the host community basically emphasizing on natural resource-based activities like mining, livestock farming, carpentry, and construction as well and environmental safeness consulted in terms of deforestation, water and air pollution, soil erosion and scarcity of natural resources to prevail and geographically, the present study was referred to Mahama refugee camp located in Kirehe district, Rwanda about 270km depart from Kigali city.

3.8 Limitations of the Study

The smooth flow of this research was fundamentally hindered by time and pandemic constraints. By time constraints, the study was supposed to be covered within set time limit yet there is need to go with vast number of related literature ensuring that drawn conclusion is appropriate and concise and by current pandemic situation constraints caused by covid-19 that is believed to rush data gathering process which required us to be brief, selective and purposive as the special means of gathering useful information since the impact of this pandemic result into complete lockdown.

3.9 Description of the Study Area

Mahama Sector, Kirehe District, in Eastern Province, at about 270km from Kigali city. Mahama sector is one of 12 sectors of Kirehe district apart from Gahara, Gatore, Kigarama, Kigina, Kirehe, Mpanga, Musaza, Mushikiri, Nasho, Nyamugari and Nyarubuye. The sector comprised by four (4) cells namely; Mwogo, Munini, Saruhembe and Kamombo. The sector relies on agriculture and livestock. The most cultivated food crops are banana, maize, beans, soya beans cassava and rice in marshland. Fruits are also produced like pineapples, oranges, mangoes etc. Maize is one of the priority crops and occupies 25,000 ha located mainly in the swampy areas of the Akagera region in the sectors of Sagatare and Kinoni I & II, Nyamugari and Mahama. The District has areas suitable for livestock farming like Mpanga, Nyarubuye and Nasho where 16,000 liters of milk are produced daily.

Mahama Refugee Camp situated in Mahama Sector was established to accommodate thousands of Burundian refugees who massively fled to Rwanda when political crisis related to presidential elections erupted into violence in Burundi. Thousands of Burundian refugees who fled in a big



influx were temporarily accommodated in transit centers in different part of the country depending on their entry points. Mahama camp is the youngest among other refugee camps and is the biggest camp in Rwanda with a population of over 50,233 by (9/09/2016) which grows up day after day as Burundian continues to flee to Rwanda, by today it is almost 60,000 total population. While Burundian refugees continue to arrive daily, fleeing violence and insecurity, the large majority have been living in Mahama for over one year, many since the camp opened in April 2015. The camp is divided into 25 villages with a minimum of seven leaders in each. 251 leaders and over 300 community mobilizers set the stage for a well-organized village leadership structure where voices of the now more than 50,000 refugees can be heard. Mahama camp is the sixth with two health centres, a school, a bus line and market full of small businesses.



4 LITERATURE REVIEW

4.1 Introduction

Having described the evolution of the related debates on environmental change and migration, the present chapter provides deep emphasis on extant literature related to refugee population practices and environmental change on both theoretical and empirical. Theoretical sub-section reflected reviewed literature on related attributes and on related indicators. Ultimately, empirical subsection provided statistical analysis for the reviewed studies that previously conducted in the same field to identify the left gap impressed us to get involved in the research project with the unique angle.

4.2 The real world migration crisis

Before covid-19, “more than 65 million people displaced across the world from their habitual homes whether by conflict, violence, and persecution-the highest figure recorded by United Nations since the second world”, (Turk., Edwards & Wouters, 2017 & Knox and Kushner, 2012). On the other hand, as cited in Christian Aid’s (2017) reported “Human tide: the real migration crisis, projected the estimation of 230 million displaces by 2050”. However, environmental features might be highly exposed to a large proportion of destruction and put the host communities at risk of never experiencing development in terms of social, economic and environmental health. Albeit “the current estimated number and proportion of international migrants already surpasses the projections made for the year 2050”, World Migration report, (2020). The conscientiousness for mentioning such figures is not entirely profited but notifying humanitarian groups to have quite lasting responses thoroughly to the ‘threat’ of large scale, and environmentally persuaded vulnerable and suffer from displacement. Under the present section, study variables are emphasized to give the reader opportunity of catching well the study context based on various literature reviewed related to the on-going study where response plan for refugees before COVID-19 is talked about and how responsible Nations adopted solutions to cope with changes brought by the pandemic.

4.2.1 World consecutive response plan for refugees before covid-19:

Primarily, all UN member states were over distressed by large-scale mixed movements of refugees and migrants for numerous factors, which put forward closer cooperation diligently and more robust responsibility-sharing remain a driving response. In September, 2016, “the General Assembly decided, through the adoption of the New York Declaration for Refugees and Migrants, to develop a global compact for safe, orderly and regular migration”, (Ineli-Ciger, 2019; Thouez, 2018; & Turk, 2018). Accordingly, “the Declaration expressed political will of world leader’ humanity to save lives, ensuring rights protection and share responsibility on a global scale”, (Assembly, 2016).

.In this regards, “the global compact for migration was the first, intergovernmental negotiated agreement, prepared under the support of United Nations, to cover all dimensions of international migration in a holistic and comprehensive manner”, (Assembly, 2016; Pittaway & Bartolomei, 2018; and Turk & Garlick, 2019). “The global compact is non-legally binding as it is prior grounded in values of state sovereignty, equitable responsibility-sharing, free from discrimination, and human rights development and recognizes that cooperative approach can work to optimize the overall benefits of migration, while addressing its risks, challenges for individuals and communities in countries of origin, transit and destination”, (Assembly, 2016 & McAdam, 2019).

The global compact consisted 23 objectives for better managing migration at local, national, regional, and global levels. In nutshell, Betts (2018) and Gilbert (2018) underpinned the indicators of the Global Compact and the following are worth noting:

- Aims to mitigate the adverse drivers and structural factors that restrict people building and maintaining sustainable livelihoods in their countries of origin;
- Intends to reduce the risks and vulnerabilities migrants face at different stages of migration by respecting, protecting, and fulfilling their human rights and providing them with care and assistance;
- Seeks to address the legitimate concerns of states and communities, while recognizing that societies are undergoing demographic, economic, social, and environmental changes at different scales that may have implications for and result into migration;
- Strives to develop conducive conditions that enable all migrants to enrich our societies through their human, economic and social capacities and thus facilitate their contributions to sustainable development at the local, national, regional, and global levels.

From those key objectives, they were supposed to:

- Down the pressures on host communities;
- Upgrade refugee self-reliance;
- Wide access to third-country solutions; and
- Aid conditions in countries of origin for return in safety and dignity.

4.2.2 Existing adopted solution during covid-19

Refugees are at the forefront of being vulnerable for every single world shock whether in social and economic aspects yet the upcoming of global pandemic (covid-19) has messed up all things including intergovernmental agreement regarding movements of refugees couple with insufficient



facilities and assistance provided to refugees in developing countries whereby able Nations are hustling with the redemption of their citizens looking for the best approach to survive and escape from current pandemic (covid-19). On the other hand, Mahama camp locked-down since July 2020 due to 11 cases of COVID-19 identified in the camp yet the number continued to booster to 51 refugees confirmed positive of COVID-19 by the end of September 2020, which restricted them from any movement out of their homes and the camp as well yet the environmental degradation continued to dominate on infrastructure and shelter.

“The Regional Inter-Agency Coordination Platform (R4V), in close coordination with national and local authorities, and with WHO-PAHO leading the health sector response, has activated a critical revision of all operations in the region to prioritize essential protection and life-saving actions in the context of COVID-19”, (RMRP, 2020). Last year, the world trending issue needed quick response for refugees was Venezuelan refugees where “the coordination of the response for refugees and migrants from Venezuelan and for the affected host communities, bringing together 151 response actors at regional and national levels, was conducted through the Regional Inter-Agency Coordination Platform (R4V), complemented by eight National and sub-regional Platforms in Brazil, Chile, Colombia, Ecuador, and Peru- at National level and in the Caribbean, Central America, and part of Mexico, and Southern Cone- at Sub-regional levels. As a result of comprehensive and COVID-19 focused review, the Regional Refugee and Migrant Response Plan (RMRP) has financed USD 1.4 billion to cover a broad range of re-/prioritized activities in 17 countries targeting 4.1 million people and the requirements for COVID-19 specific activities amounted to USD 438.81 million”, (RMRP, 2020).

4.3 Overview of the African refugee situation

The rate that people displace for various reasons across the world has been changing to make the refugees over 26.3 million people. UNHCR Global trends (2018) reported that “in developing countries hold 86% of the world refugees including 80% from countries of Africa and 6% covers the rest developing countries from other continents”. Currently, Uganda headed African countries to host large number of refugee population of over 1.1 million refugees, most of them from South Sudan, the Democratic Republic of Congo (D.R.C), Burundi and Somalia followed by Kenya, D.R.C, and Ethiopia to host big number of refugees on the continent.

Due to the insufficient of funds contributed to Uganda budget to enhance its capacity to provide all refugees life-saving needs including food supply, sanitation maintenance, shelter and health needs whereby funding for 2018 was a mere 55% of the required \$8.2billion compared to 56.5% in 2017 and 58% in 2016. These caused Uganda to temporary close door for new coming refugees to the country ensuring that the host ones are cared in all circumstances. However, in his words Mr.



Hakiza, advocating free movement in host countries said that “closing borders to refugees is not the solution. Among refugees are doctors, lawyers and other university graduates that can make valuable contributions to the host communities”, UNHCR report, (2019). Notably, there is need to strengthen the competition at a labour market striving to employ the competent employee who will deliver relevant insights for a given organization.

Besides that, UNHCR declared the plight of thousands groups of refugees bearing a terrible risk of crossing the Sahel into Libya and the Mediterranean and then into Europe and ultimately in collaboration with UN and other migration organization this group is evacuated and sometimes resettled. After realization of the Chief Executive Officer of the world bank, Kristalina Georgieva that “poverty, conflicts, natural disasters, and climate change are topmost drivers of displacement, she came up with a durable solution where on behalf of the world bank, she donated \$2 billion between 2017 and 2020 in support of African refugees under its International Development Association Program”, MINEMA, (2019). Therefore, as she stresses that “prevention is a key to address the issue of refugee crisis and that the best way to deal with humanitarian crisis is not to have it in the first place”, MINEMA, (2019).

4.4 Refugee open-door policy in Rwanda

At the end of September 2020, UNHCR in its operational updates reports revealed that generally Rwanda hosted a total of 146, 831 refugees mainly 52% and 47.8% from two neighbouring countries of DRC Congo and Burundi respectively. During the year 2020 the government of Rwanda planned framework aimed to repatriate about 8, 000 back to their home land and voluntarily 19% of them returned to Burundi under support of UNHCR.

Rwanda as one of the countries in the region conquered the spread of COVID-19, it has also established different measures to mitigate its spread and the following are highlighted measures taken and carefully implemented to prevent refugees against COVID-19 with prevention guidelines set by responsible departments held by health department:

- 312 temporary hand washing stands were prepared and installed in different areas in Mahama camp to promote accurate hygienic requirements,
- All refugees in Mahama camp received food assistance through monthly support of cash to restrict movement to and from market to keep them safe in stay home instruction, and
- Persons with special needs and protection including elderly and persons with disability were united in one safety zone where all kinds of support provided on due time and all refugee

population were tested COVID-19 on daily basis to isolate refugee tested positive from the community.

Apart from those measures put in place and implemented in Mahama and other camps in Rwanda to maintain the health of refugees willingly hosted by the country, under considerable capacity of the country UNHCR declared reasonable needs of support to keep the life of refugee safe and they are summarized in three driving points:

- There was limited funding resulted lack of access to cash for non-food items and around USD 1.5 million support needed to achieve the target of 8, 000 returnees by the end of 2020,
- There was limited access to information due to lack of radio accessories, internet or equipment to access online learning platform, and
- There is environmental degradation that never ceased to impact on shelter and infrastructure.

4.5 Environment deterioration in Mahama sector

Basically, natural environment is intimately corresponded to the economic welfare in developing economies yet the arrival of refugees in the communities poses a lot of pressure on various environment features that often result into environmental problems caused by over-exploitation of water, food, shelter and medicine to lower its supply capacity. “Last year, the population of Mahama camp experienced huge environmental degradation including soil erosion resulting from lack of appropriate drainage systems is impacting various structures meanwhile expansion of ravines and gullies have become life hazards”, (UNHCR operational updates, 2020).

Despite the fact that there is inappropriate management of natural resources where refugees are resided, it's noted that refugee settlements mostly occur in environmentally rich sensitive region especially in agriculturally marginal areas nearby forests but their negative impact on surrounding community may be prolonged and some become irreversible. Refugee population influence on environmental deterioration is intense where dirty water flow from the camp poses a high risk of infectious diseases that rapidly multiply and spread quickly in houses near to the camp due to insufficient water supply that force them to fetch dirty for use in household activities.

With the absence of immediate compensation in the community received refugees, they are supposed to bear the costs of the arrival of refugees where available materials and supplies, construction and consumption become shorter and local markets rise price for food. The presence of refugees have imposed a lot of land-use changes and most importantly deforestation and destruction of vegetation appear to the forefront, which resulted into damage of about 6329.2 Ha of cultivated crops during the year 2019.



The research conducted by MINEMA (2019) entitled ‘‘social Economic inclusion of refugees and host communities in Rwanda’’ was undertaken in six district hosting refugees, namely Kirehe, Gatsibo, Karongi, Nyamagabe, Gisagara, and Gicumbi hosting the refugee camps respectively Mahama, Nyabiheke, Kiziba, Kigeme, MUGombwa and Gihembe. The study covered four main areas of assessing the access to basic services and social-economic investments, assessing the access to finance and livelihood opportunities to both refugees and host community, ways to rehabilitate the environment in and around refugee camp and ensuring the proper management, monitoring and evaluation of refugees in the site. The findings have been documented and the main environment issues in and around refugee camps found for the environmental management interventions in refugee camps in Rwanda are as follows:

- Improper storm water management and inadequate drainage systems leading to storm water runoff, erosion, and consequently the formation of ravines and gullies;
- Improper waste management; and
- The need to meet firewood demand resulting in forest and vegetation degradation associated impacts on both host and refugee communities.

The assessment also revealed that fire wood collection and charcoal cooking have resulted into forest and other vegetative cover degradation and violent confrontation. It is in this sense, the government of Rwanda is strict for the forest rehabilitation to forbid individuals cut down infant tree with punishment where applicable to those who broke the law so that the forest should return to its nature functions of maintaining fresh air for breathing, attracting rainfall and land protection as well.

Also, Asit K. & Cecilia T., (1996) examined the environmental impact of Rwandan refugees in North and South Kivu and Zaire. The study was quantitative and qualitative in nature and took place in Zaire. Both primary and secondary data were used to meet the purpose and the findings revealed that the most critical environmental impact of Rwandan refugees in Zaire was deforestation but other impacts including waste disposal, germplasm loss, poaching, changes in land-use, and water pollution occurred in the host environment of Zaire. This is to confirm that environmental impact of refugee population in the community is not a new story. It has been evolved since the term refugee integrated into real world life because both studies show where refugees arrive the nature of environment start to diminish for the facts that they need to access on social services, seeking economic activities to generate income, finding shelter and many more that requires the exploitation of natural environment features. Ultimately, the government hosted refugees in partnership with other concerned organization have come to find solution where refugee



is considered as a work force for the country development and some employed for the job to reduce the degradation level of environment in and around the camp.

4.6 Environmental rehabilitation advancement in Mahama sector

Concerning the matter of environmental deterioration resulted from excess exploitation of forests and related plants, all responsible departments should work together to adopt, initiate and develop cooking system that involve gas-stoves by establishing the agencies in charge of supplying them on affordable price and promote re-plantation campaign imparting villagers to achieve the revival environmental rehabilitation. Secondly, after addressing the problem of fuel wood there is need to handle the issue of temporary shelters made in timbers, which accelerate the deforestation rate to a high extent. In this case, settlement structure in the camp must be reviewed and worked for to make lasting solution on over usage of timbers whereby two or more shall be united in a well-constructed buildings like two-in-one building, four-in-one building and even all-in-work might function where applicable.

Under the consideration of demand and supply level of commodities, materials and foods in Mahama, and in comparison with the population of concern, there is need for government intervention in pricing strategies at the market to make all available products affordable. Specifically, in disruption supply period the government might put in place plan regarding the distribution of product by maintaining the price stability at the market and protect the sector against draught, hence social welfare of Mahama communities and hosted refugee preserved.

Though there is small scale and magnitude of humanitarian crisis in Rwanda, it is still exposed to the three complex emergencies: (1) to continue to maintain its Ebola preparedness avowing the risk of outbreak due to shared borders; (2) to continuously deal with COVID-19 pandemic and (3) to provide 147, 000 refugees required humanitarian assistance. Since Rwanda confirmed the first case of COVID-19, it has strictly implemented prevention measures to protect vulnerable population including refugees from being infected by the virus. Since then, the country is experiencing extreme poverty for weaker society which led the government to provide them assistance in terms of foods regardless of its capacity and usual duties of serving refugees all they needs to survive. The application of COVID-19 prevention guidelines has strictly exposed risks that are most likely to affect the country to turn it to the economic crisis whereby unemployment rate gone high, prices at market increases and inequalities between households living chaired down.

Ultimately, UNHCR provided a durable solution of adopting “prevention before cure because these preventive and mitigation measures are less expensive that the curative ones but in some cases, negative impacts imposed on environmental health or destruction of biomass resources seemed



irreversible, a decision relating to environment including refugee-related environment interventions requires to apply a widely accepted rule of prudent conduct to preserve the environmental safety within the community of the highest population concentration”, (UNHCR, environmental guidelines, p.p.11)

During this kind of hardships brought by the pandemic, UNICEF promised to keep deliver life-saving assistance for refugees and over 1 million vulnerable children and families facing with social-economic impacts caused by COVID-19 and maintain Ebola preparedness measures and contingency planning. Further, the government is empowering all health centres to manage the surge in cases of COVID-19 and Ebola treatment to keep away its spill over to Rwanda.

4.7 Gap analysis

On the basis of reviewed papers of research undertaken by various scholars and authors in the same field and regarding to their recommendation mentioning uncovered areas of study in the region, the local dimension of the refugee camps influence to their surroundings remain unknown. It is now urgently to undertake this study to assess how the nature of environment surrounding the camp might be influenced by hosted refugees in one way or another. For this case, Burundian refugees employed to participate in the study as they are hosted in Mahama refugee camp solely established for them since 2015. Despite the fact that similar studies have been conducted globally but few are related to Rwanda context and in comparison with the methodology used to correlated variables, the extent to which refugee population affect the host community is not yet communicated. Therefore, the present assessment is being examined under completed circumstances and research paradigms to clearly indicate the relationship that exists between refugee camps and surrounding communities letting SPSS the famous computer program and reliable to process data with the accurate results be used taking into account the main activities carried out by refugee population that might poses any influence in surrounding environment.



5 RESEARCH DESIGN AND METHODOLOGY

5.1 Introduction

The present chapter shares out the research methods and procedures intended to be used by researchers in the field to gather requisite data. This comprises research design, sampling design, data collection, and treatment. Explicitly, this chapter emphasizes the following areas:

- Study design;
- Study sites;
- Study target population and respondent selection;
- Research instruments;
- Research procedures; and
- Ethical consideration.

5.2 Study design

The study adopted mixed method research design by collecting both qualitative and quantitative data in order to explore and describe the influence of refugee camp to the surrounding communities particularly in developing countries taking Mahama refugee camp as one of the biggest camps in Rwanda that contribute more to the whole country's population.

The mixed method approach is the research inquiry that involves both quantitative and qualitative approaches for the purposes of breadth and depth of understanding and partnership, Creswell, & Creswell, (2017) and McKim (2017). Creswell and Clark (2017) stress that the indispensable premise of mixed method design is that the use of quantitative and qualitative enable the reader to have a better understanding on the research problems than the use of either single method in a study.

The application of mixed methods research provides wider, deeper, and or further relevant information complementarily and the approach also makes up for the shortcomings of employing single research method. Mixed method approach does not only provide solid research, but also integrates learning outcomes from both methods. To Creswell and Clark (2017), the method helps to have more in-depth understanding information about problem undertaken by the study as well as increasing findings reliability and credibility through the triangulation of the different results.

5.2.1 Study sites

The study was allocated to Mahama camp the biggest refugee camp in Rwanda structured on 50ha with a safe haven of 58, 968 Burundian refugees, the surrounding community consists of four cells of Mwogo, Munini, Saruhembe and Kamombo with a total population of 23, 643 whereby 88% of whom are employed in agriculture-based activities and Kirehe district with total population of 340, 000 where poverty and extreme poverty rates are above national average at 45 and 19 percent respectively yet the unemployment rate is low at 0.2 percent to mean how available jobs are less paid.



Source: UNHCR Rwanda camp sites, 2020

5.3 Study target population and respondent selection

The study targeted 58, 968 current refugee population dwelt in Mahama camp, Kirehe district to participate in data collection process.

5.3.1 Sample size

A sample is a segment of the population that is selected to represent the population to permit to draw representative conclusions. In this study, sample size has been computed using Yamane (1967) simplified formula to compute sample sizes as follows.

$$n = \frac{N}{1 + N(e^2)}$$

Where n stand for the sample size, N for the population size, and e for the precision level

N=58, 968 with 5% the margin of error



From the above formula, the sample size to represent our population is 397 to add on 97 household representatives surround the camp to make 494 in total.

5.3.2 Sampling techniques

The study adopted simple random sampling technique to determine which individual to be participate in this study using the obtained list of total refugee population live in Mahama camp by order of alphabetically arranged. The researchers randomly picked number respecting sampling interval of 9 digits between selected numbers exclusively and consistently apply the same procedure till the desired sample size is covered.

5.4 Research instruments

The present section gives light on data collection tools including survey forms (questionnaire), and interview guide.

5.4.1 Questionnaire

In this research, questionnaire was the main instrument that was used in data collection from the field to fit the purpose of the study, whereby closed-ended questions, which included the dichotomous, multiple choice and rating scale have the advantages of being easier to administer to a large group of respondents and therefore saves time. It is easier to score, tabulate, and analyse and it is more objectively and reliably scored.

During data collection, respondents were approached one by one to gain their perception and agreement level towards the pre-determined statements seeking the deeper understanding and reasonableness of the agreed point of view. 494 questionnaires were completely filled by respondents with full compliance of COVID-19 measures where respondents and enumerator observed distance of 1 meter and fill in the very shortest moment. Noting that the COVID-19 government prevention guidelines cancelled the discussion section covered by one-to-one discussion as they were filling the questionnaire and KIIs section.

5.4.2 Interview guide

With particular knowledge and understanding, key government officials, refugees and, UNHCR staff, and other implementing partners such as NGOs purposively chosen based on the portion of their involvement in refugees' related issues and the extent they work with hosting community in the region so that data gathered on physical environment and environmental change in the region are vital and reliable regarding the implementation of environmental management projects, for the fact that the give and take these interviews might result into disclosing hidden information that



would not be revealed in the survey. However, concerning the issue of the current pandemic that prohibit in person close contact, the interview section shall be held via online system like visual meetings adopted to handle the smooth flow of requisite information during this pandemic situation as a solution to keep benefiting information sharing on subject matter.

5.5 Research procedures

Due to the global trending issue of the pandemic, the allowable time for data collection was 10 days manageable to collect the required information. In this study, pre-established questionnaire was used divided into two parts where the first part intended to provide information about social-demographic data and overall information of respondents and the second part for specific objectives to answer the related research questions on the influence of refugee population activities to the surrounding communities in developing economies. An interview session was held from key players in Mahama camp management staff and on each respondent approached, later on, data cleaning and entry took place before collecting the next round. Documentary review also contributed more for critical thinking about study variables to come up with sensitive points when analysing the first-hand information in comparison with other scholars' thoughts toward the assertion.

5.6 Data management

The research work was conducted without any person harmed or faced any consequences from the research activities, hence it was voluntary, independent and anonymous participation. Data was collected confidentially upon messaged informants and given questionnaire. Participants were asked to first wash hands with soap and clean water before handed questionnaire and start filling to avoid the spread of covid-19. In data processing and analysis, there was no tendency of data manipulation and or falsification, and interpretation was objective to reflect the reality. Data was analysed by using SPSS statistics version 21 and presented in form of tables showing frequencies and percentages with meaningful interpretation.



6 STUDY RESULTS, ANALYSIS AND DISCUSSION

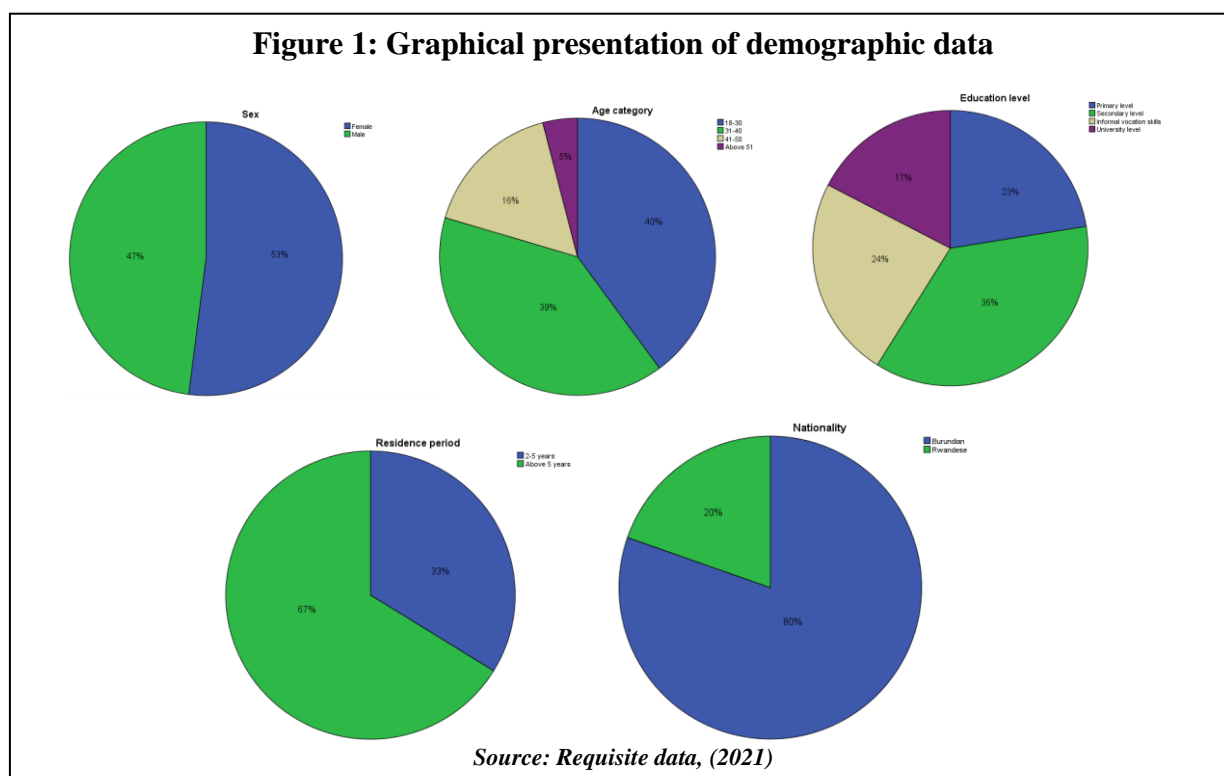
The present part of this paper presents the findings of the collected data from the field. It comprises the presentation of demographic variables of respondents and findings related to the research objectives. Under this chapter, research questions prior formulated by the researcher are answered to establish the influence of refugee camps to the surrounding communities in developing economies with reference to Mahama camp site in Rwanda. All questionnaires distributed among 494 respondents were filled and returned to imply the participation rate of 100% because the target population was big enough to have all survey forms filled. Apparently, IBM SPSS statistics version 21 was involved to produce the output to this study to allow sensitive data presentation.

6.1 Study results

The present section emphasizes on the demographic characteristics of respondents to facilitate the reader understand the reliability of information collected and their perception towards the study variables reflected on how refugee population activities influenced the hosting community in terms of social and economic aspects with the moderating variable of environment features that seemed deteriorating where there is high population density especially refugee whose nothing to base on and excel in society received them.

6.1.1 Demographic information

The present part presents demographic variables of respondents participated in this survey such as sex, age category, education level, residence period and nationality of respondent. These were screened from respondent to respondent ensuring that all respondents were enriched with the information expected from the respondents to deliver so that all objectives should be fulfilled.



The figure 4.1 depicts findings from the study to express the information of respondents participated in this survey especially in data collection procedures and the summarized findings are systematically presented here below on each variable consulted in respondent demographic information:

Concerning the sex of respondent, the findings are indicating that the majority (53%) were female and the rest 47% occupied by male participation just because normally women number exceeds the number of men to imply that the participation of both sex has led to reliable information since both parties pointed out to a similar point of view.

For age category, the findings revealed that the majority (40%) of respondents were at young age with concentration in the age interval from 18-30 years followed by the age category from 31-40 years with the concentration of 39% of the total respondents followed by the age category from 41-50 years with 16% of the total respondents and 5% concentrated in the age above 51 years old. The implication of the findings to the study is that since the majority number of respondents is youth it means that there is significant impression of their activities because they are strong enough to carry out different activities from different location.

Concerning the qualifications of respondents in education, the findings proved that the majority of respondents (36%) qualified secondary level with advanced certificate of education (A₂) followed by 24% of whom certified in informal vocation skills followed by 23% qualified in primary level of education and graduate 17% of the respondents pursued university studies pursued. The implication of the findings is that all sections of education were represented to mean their knowledge must be highly considered to discuss whether or not refugee activities affect the hosting community socially and economically.

For residence period of respondents, the above figure shows that the majority (67%) have lived in Mahama sector for the period exceeds five years especially refugees resided in this sector since its establishment and the rest 33% varies from 2-5 years as a life experience in this sector. The implication of findings to the study is that both refugee and local population are having enough experience to realize the environmental changes with human activities evolution occurred overtime.

Concerning the citizenship of respondents, the findings emanated from the above figure confirm that the country of Burundi dominated Rwanda in terms of nationality whereby the 80% of them were Burundians while 20% remaining were Rwandese. This is to indicate that the participation of different nationalities is a solid foundation for underlying on the information expected to deliver as they are both well aware of the impact of their activities toward the environmental health care.



6.1.2 Discussion on the activities engaged refugee population in the host community

Under consideration of the research objectives, this first was aimed at determining and discussing the main activities that engaged the refugee population in the community of Mahama which had resulted both direct and indirect impacts on surrounding environment due to a number of solid factors including excess demand that prevail over natural resources available. It was seen that exceling refugee population in other community's live has imposed heavy burden to carry over infrastructure development, decreased unemployment level, environment health and business operating. In this part, refugee occupation, factors influencing environmental degradation in Mahama community, achieved and planned contribution of refugee population in the host community and their contribution towards environmental rehabilitation as they are causal agent of its degradation are discussed based on the findings depicted from the study.



Table 4 1: Perception of respondents on Refugee occupation

	Frequency	Percent
Crop production	56	14.0
Livestock production	38	10.0
Mining	29	7.0
Forest Exploitation	85	22.0
Information Technology	36	9.0
Business enterprises	54	14.0
Construction	41	10.0
Government job	46	12.0
No occupation	12	2.0
Total	397	100.0

The table 4.1 revealed the findings from the assessment of refugee population in Mahama community to measure its significance whether in social and or economic aspect and the results showed that refugee population are occupied in cheap and lower income activities but impose lasting impact on next generation as the main occupation of refugees was forest oriented activities such as carpentry, burning charcoal, wood supplying, and other hand craft works made in timber where the majority of them (22%) agreed that they are occupied in this sector followed by agriculture sector whereby different types of crops are grown for subsistence and selling purpose as it is evidenced by 14% of the total respondents to equal rate of refugees involvement in micro business enterprises activities where they are partnering together to contribute capital for cheap but needed commodities like food supplies.

The next sectors of activities for many refugees are Livestock production and construction sector that also include many of the refugees whose technical knowledge to operate in the sector as it was evidenced by 10% of respondents while others are employed by the government. However, the sectors which requires huge capital and expensive equipment to invest in like information technology and mining occupied refugees on a very low rate for the fact that some don't know their repatriation period fearing to leave the formulated businesses nonetheless some refugees are also unemployed.

Therefore, in close collaboration between both parties Rwanda and UNHCR Burundian refugees were given a golden opportunity to have professional courses in different disciplines especially in technical and practical activities to help them feed their selves and families for the core purpose of integrating them in their respective communities and reduce unemployment rate as well, that is, to

say that all activities taken by refugees result into effects on the community surrounded them whether in positive and or negative way.

Table 4 2 : Perception of Respondents on environmental degradation

	Frequency	Percent
Population growth rate	110	28.0
Poor environmental control policy	69	17.0
Disorganized settlement structure	58	15.0
Mechanized agriculture method	80	20.0
Excess demand over natural resources	80	20.0
Total	397	100.0

The table 4.2 discussed the most affective factors that disseminate environmental problems in Mahama community as a result of different activities taken and the findings proved that environmental degradation is most likely supported by the high population growing level in the sector which made the environmental features vulnerable while they are seeking settlement places and food for their families as evidenced by 28% of the total respondents followed by mechanization system used in agriculture activities and excess demand over natural resources that destroy the nature of soil to produce different kinds of plants to help the community breath fresh air. The system named “Tubura” adopted in Rwandan agriculture to multiply seeds to harvest higher productivity sometimes result into poor due to weak application skills leads to destroy soil fertility, hence environmental degradation as 40% of respondents proved that on both statements.

The findings also found a weakness of environmental control policy which is not applicable in this community where some people do illegal practices with environment and don't get punished which is accompanied by disorganized settlement structure that don't recognizes the importance of natural features to human being where people are found mixed with field, animals and waste site. The above factors of environmental degradation both controllable and non-controllable contribute to the environment management especially in densely populated areas to mean that the government of Rwanda and its partnering agencies must hold on the responsibilities of designing the community plan showing the mutual benefits gained for both parties people and environmental species to help develop the community the high favorable conditions which allow both refugees and host community to achieve sustainable development.

Table 4 3 : Perception of Respondents on Contribution of refugee activities towards economic development

	Frequency	Percent
Tax payment to the government	101	25.0
Offer Job opportunities to the local population	71	18.0
Inputs are purchased from the local community	105	27.0
Expanding the market products and services	47	12.0
Stabilize the demand and supply in the local market	32	8.0
Reinforce the innovation and invention	29	7.0
No contribution	12	3.0
Total	397	100.0

The findings from the above table 4.3 sought to reveal whether or not there is significant contribution of refugee activities towards economic development of the hosting community and the results are indicating the positive contribution in various way whereby the majority of them (27%) confirmed that most of the inputs needed for their businesses are locally supplied for instance refugee involved in carpentry activities timbers are bought from population around the camp followed by the fact that taxes levied to the government return in the community to increase infrastructures as a driving factor of development. The findings also indicated that allowing refugee to carry out economic activities has reduced the rate of unemployment in the sector due to a number of consultancies needed in their businesses and technical problems requires special skills as it was evidenced by 18% of the total respondents. Moreover, refugee activities are important to the local market due to different products and services added in the market to reduce the burden of higher demand in the community. However, not all refugees are carrying out profit making activities because of capital and or skills to bring an idea while others have weak bodies which restrict them to engage in any activities like physical disability and or adulthood problem. The implication of the study findings is that despite the facts that environmental degradation increases the community benefits from various business conducting skills from different norms and culture which promoted perfect competition in the market and result into lower price of commodities.

Table 4 4 : Perception of respondents on strategies of environmental rehabilitation

	Frequency	Percent
Participating in the activities of local environmental club	65	16.0
Report anyone who attempts to destroy the features of environment	60	15.0
Convincing people the role of environment over human being	64	16.0
Ensuring proper management of waste	47	12.0
Using advanced cooking system like gas stove	95	24.0
Employing capital extensive technology in agriculture activities	66	17.0
Total	397	100.0

The table 4.4 emanated findings from the study on the strategies of environmental rehabilitation in Mahama and the respondents proved that the sector should adopt the strategy of using gas stove in cooking activities to reduce deforestation rate in Mahama as it was evidenced by 24% of the total respondents followed by the working strategy of shifting mechanized agriculture system used to using capital intensive technology that employ machines qualified to execute this task for the fact that land preservative strategy can enable all plants to grow and display long lasting benefits for both animal and human being. It was seen that also involving refugees in the events of environmental club operates in the sector and community works “Umuganda” takes place at the end of every month to contribute their efforts towards maintaining environment features and the beauty of sector infrastructures as it was evidenced 16% of the respondents. The findings also indicated some refugees and other local population who are not aware of the importance of the natural features because 16% of respondents required the organized training session on the importance of benefits derived from not destructing environment health to the community. Regarding to the illegal activities against environmental features, the respondents confirmed that the responsible department should expect and apply fines and penalties for anyone reported for the case of destroying environment. Therefore, to the present study the findings imply that whether or not agree exceling refugee population in the community the first damaged thing is environmental features by looking for settlement places and or food for life that is the reason to cope with changes and adopt strategies to mitigate the associated challenges by establishing environmental code of conduct with expected penalties where incompliance exists.

6.1.3 Perception of respondents on impacts of refugee activities on environmental conservation

The study sought to explore the effects of refugee activities on environmental conservation measures in Mahama sector. The second study objective was involved household representatives and KII views to help understand the major effects brought by the activities taken by Burundian refugees in the Mahama community. The major effects found reflected on environment, social and economic effects due to various factors lead by high population growth. Under this section, we have tried to harmonize the views of respondents about seen and expected effect with solutions proposed by respondents in the late this section were discussed and come up with the summarized study findings as follow;

Table 4 5 : Perception of respondents on environmental effects arose with refugee's activities

	Frequency	Percent
The Sector experience extreme temperature	17	17.0
Soil pollution	26	27.0
Increased air pollution	18	19.0
There is natural disasters associated with the region	1	1.0
The region receive insufficient rainfall	20	21.0
The communicable diseases easily multiplied within the region	15	15.0
Total	97	100.0

As exhibited in table4.5, the results indicated that there is environmental effects associated Mahama community under the influence of refugee activities whereby the majority of respondents (27%) agreed that there land pollution caused by mismanagement of waste including perishable objects thrown everywhere which is harmful for land fertility; the respondents also perceived that the sector experiences insufficient rainfall for the fact that forest have been cut followed by the effect resulted as air pollution due to harmful gases released in atmosphere from burning charcoal yet the forest that would restore the air for breathing have been removed. In addition, Mahama camp presents in the eastern part of Rwanda the hottest region of the country that should be planted different tree species by reducing the effects of high temperature as the 17% of respondents proved that on the statement that there is extreme high temperature. The findings also confirmed that removing houses for insect in forest has been increased the rate of pest and diseases associated with the community of Mahama. On the other hand, KII argued that causal agent of the environmental effects associated with the sector is high population growth rate and deforestation due to the number of reasons including low skilled population which led to taking forest as irrelevant and only a source of timber and other raw materials. In this sense, all effects must be addressed by increasing people's thinking about the importance of natural features towards both human and animal life. This study confirms

the study of (Kreinbaum, 2016) found that the arrival of refugees in the community results into environmental effects.

Table 4 6 : Perception of respondents on economic effects arose with refugee's activities

	Frequency	Percent
General price at market place increased	23	26.0
Infrastructure of social services became inadequate	5	5.0
The high demand in the community has led to underway development down	4	4.0
The Sector experiences scarcity of commodities at market	13	13.0
They have empowered price competition over sales at market	15	15.0
New markets have been created with new services in the community	14	14.0
Labor competition has been reduced in the community	12	12.0
Innovation and invention spirit became promoted	11	11.0
Total	97	100.0

As observed in table 4.6, the findings on the economic effects associated with the community surrounds the refugee camp are indicating that there is general increase of commodity price at market place as it was evidenced by the majority (26%) of respondent on subject matter accompanied by the commodity price competition promoted as a result of scarcity of resources to satisfy the entire community as it was evidenced by 15% of respondents. However, the study found that the creation of new markets for non-familiar products and services in the economy has resulted into positive effects for the fact that it helps the local population to have chance of subsidizing the normal consumable goods with developed products. On the other hand, labor competition is reduced since there is abundant work force partners need job as it was evidenced by 12% of the respondents towards the assertion to imply that this lead to better job performance fearing that once resigned or fired the replacement can be made easily, that is the reason respondents also proved that the culture of innovation and invention has been promoted in order to stay competitive at the market.

Apparently, the views held from KII stressed that positive effects of refugee population in terms of economic aspect are fewer but relevant thereby challenges imposed in buying and selling behaviors at the market awaken all economic agents to work hard to acquire the biggest market share and stimulate local economy, hence empowered perfect competition and high quality products and services. The implication of the findings to the study is that natural resources are over exploited due to its scarcity compared to the demand which result into lasting negative impacts on environmental features in general. In addition, the above findings harmonized with (UNHCR, 2018) research found that hosting communities face economic vulnerability due to scarcity of resources.

Table 4 7 : Perception of respondents on social effects arose with refugee's activities

	Frequency	Percent
The flow of dirty water from the camp increased malaria cases	27	28.0
Clearing the surface for camp site diminished the areas of biomass resources	14	14.0
The sector has insufficient air for breathing due to harmful gases that contaminated the atmosphere	32	33.0
Some types of plants and animal species deteriorated due to high deforestation level	17	18.0
Sexual activities has increased HIV/AIDS cases in the sector	7	7.0
Total	97	100.0

The table 4.7 indicates the findings on social effects associated with local community and the results are showing that the majority (33%) proved that the contamination of harmful gases into atmosphere caused insufficient air for breathing due to high deforestation rate followed by the statement that the increase of malaria cases in the community due to dirty water flow from the camp site has increased the extent of infant mortality rate below 5 years old. The 18% of respondents also proved that there is deterioration of animal and plant species due to the removal of their houses by cutting down trees and other types of plants and ultimately, the areas occupied biomass resources diminished as it was evidenced by 14% of the total respondents. However, the study found that HIV/AIDS cases resulted from sexual and prostitution activities are at a low level.

On the other hand, KII witnessed that positive social effects dominate negative ones for the fact that Burundians and Rwandans are of almost similar in terms of native language culture and norms, which made communication easier for them to maintain good relationship between them. It was also noted that limitations of the collaboration of Burundians and Rwandans are not significant to intervene between them, which empowered the protection of one another against riskier situations for life. Therefore, the findings to the study imply that imposed social effects of refugee activities towards the surrounding community are rectifiable but the effects related with environment are irrecoverable including lack of some animal and or plant species. It is in this regards, the above findings confirmed the findings of the study conducted by (MINEMA, 2019) that social impacts between Rwandans and Burundians are not worthwhile to develop the mutual benefits arise with partnership in almost all issues need solution.

Table 4 8: Perception of respondents on proposed responses towards environmental problems

	Frequency	Percent
Ensure proper monitoring of environmental treatment guidelines implementation	7	7.0
Involving community works to build long lasting shelters for refugee families	19	20.0
Mobilizing refugee population the importance of maintaining environmental safety	19	20.0
Timely report for the one who try to destroy environmental features	2	2.0
Organizing campaign for rehabilitating environmental health via formulated Clubs	11	11.0
Decentralization of advanced cooking system in the sector to cut off deforestation	18	19.0
Family planning should be trained among families to reduce population growth	12	12.0
Separating residential place from farming and waste collection site in the settlement structure of the Sector	9	9.0
Total	97	100.0

As depicted in table 4.8, results are indicating the restoring environmental health requires each and everyone's contribution whereby both nationalities must get involved to help refugee population get long lasting shelters to reduce instant cutting down trees for building shelters for refugee families in community works "Umuganda" and other voluntary activities as it was evidenced by 20% of the total respondents towards subject matter meanwhile mobilizing both communities the importance of natural features by increasing their skills of maintaining environment exists in their respective places as it was also proved by respondent with the same extent of the previous statement. Consequently, decentralization of gas stove cooking system among both communities may help to minimize the rate of deforestation. Concerning the management of population growth, 12% of respondents agreed on the advice that family planning method must be trained and applied among both communities in order that scarce resources available should be at least distributed among population followed by organizing campaign for environmental rehabilitation via environmental clubs by planting trees in deserted areas meanwhile fighting against soil erosion. Furthermore, respondents elected solid solution of the government should restructure the community settlement to include areas for environment and organize reporting channel for anyone who misapplied the laws and regulations regarding the environmental safety. Correspondingly, KII perceived that durable solution must be implemented in close collaboration during implementation whereby both community were notified the environment code of conduct avoiding anyone to be punished but the only curative measure found to be application of expected punishment for people with bad conducts

towards environmental safety. KII also proposed the other alternative of adopting technology system where applicable such as in cooking and agriculture activities in the restoring process of perished environment features including atmosphere and land as the center for the environment engine and empower the reservation convention between both communities. This goes with the study done by (Turk, 2018) and confirm that responsibility-sharing is a driving response toward environmental problems arise in the community.

6.1.4 Relationship between refugee population activities and environmental conservation

The present part aimed at revealing whether there is significant relationship between refugee population activities and environmental conservation in the hosting community to compute the strength between variables and Spearman correlation coefficient (R) was used to interpret the results as presented in the table 4.9 below;

Table 4 9 : Spearman correlation coefficient

		Refugee activities	Environmental conservation
Spearman's rho	Refugee activities	Correlation Coefficient	1.000
		Sig. (2-tailed)	.003
		N	494
Environmental conservation	Refugee activities	Correlation Coefficient	.325*
		Sig. (2-tailed)	.003
		N	494

*. Correlation is significant at the 0.05 level (2-tailed).

The Spearman's coefficient varies from -1 to +1 whereby +1 represents perfect association of rank and -1 stand for negative association of ranks. In between, figures found are interpreted as found according to the levels. As seen in table 4.9, there weak relationship between refugee population activities and environmental conservation as it is proved by .325** correlation for the fact that almost all participated are allocated in environment exploitation which results into high negative effects for effective environmental conservation.

7 CONCLUSION AND RECOMMENDATIONS

The present chapter comprising conclusion and recommendations based on the findings to help practitioners and scholars get what investigated about with the outcomes revealed. This paper established the influence of refugee camps to the surrounding communities in developing economies in Rwanda with reference to Mahama refugee camp. Hence the summary of the major findings are provided to form the basis of the main message as well as suggestions for the changes and or improvement area if any is provided under this chapter.

7.1 Major findings of the study

Despite the fact that has the principal objectives it was guided by three specific objectives, namely: (1) determining and discussing the major cash out activities of refugee population; (2) evaluating the level of environmental conservation in Mahama community and (3) finding out whether there is significant relationship between refugee population activities and environmental conservation. The study employed both refugee and local population to have all sided information. The main demographic variables including sex, gender, age category, education level, and nationality were all represented.

7.1.1 The major cash out activities of refugee population in Mahama community

It was this the first research objective aimed at determining engagement of refugees in economic activities to contribute to their needs and wants satisfaction, local economy growth and development as well as the country in general. Ultimately, the findings emanated from the study revealed that the majority of refugees are involved in forest exploitation activities and crop production while others are running micro-business activities of buying and selling cheap but important products like vegetables and or fruits.

It is worth noting that in one way or another different kinds of population are needed in the economy to grow and promote innovation which has resulted high quality products at market. The study found the positive contribution towards the economy on local and national level but disseminated environmental problems for the facts that they are exploiting the natural resources with no clear way back to restore them or adopted exploitation strategy that might not harm the environmental features. The findings confirmed that forest-oriented activities are fundamental challenges of effective environment management.

Ultimately, the first research objective observed refugee activities are not redundant factors on the growth and development of local economy underway rather they contribute more in various way including tax amount levied to the government, reducing unemployment rate for the local population as well as diversifying local market products and services. The close collaboration has diligently enhanced social benefits for both Rwandans and Burundians.

7.1.2 Environmental conservation in Mahama community

The second research objective focused on assessing the achieved and targeted environmental conservation within the community exceeded different nationality population with different culture and environment guidelines to comply with. The study assessed social, economic and environmental effects associated with the refugee population activities.

Under consideration of the study findings, there is significant negative effects of activities involved the refugee population in environmental conservation for the fact that every needed activity takes effects over natural environment whether in social, economic and environment. The study found poor environmental conservation in Mahama community resulted from hold off on monitoring

environment guidelines where people are freely take affective action in environment over and over again in the sight of the responsible department. Heterogeneity among environmental treatment measures of countries where allowable act in one country is illegal act in other country found as a challenge needs durable solution. KII revealed a durable solution to sustain effective environment management to gain mutual benefits of both nationalities that refugee population are local measure regarding environmental treatment and call them in the community work to have field experience of how local population are encouraged to maintain effective environmental conservation.

7.1.3 Refugee population activities and environmental conservation

Concerning the last objective of the study, some positive effects found in terms of social aspects due to close collaboration in money oriented activities and economy to enrich local market with new products and improve quality of sales and customer care service delivery, which enhance tension and tendency of helping one another avoiding any inconveniences that should arise due bad conducts over environment treatment guidelines.

Statistically, The Spearman's correlation coefficient found .342** correlation between variables which is very low. This imply that refugee population activities is negatively correlated with environmental conservation in Mahama community. In other words, there is a weak relationship between refugee activities and environmental conservation for the fact that negative effects are stronger than positive due to high population growth, scarcity of natural resources and small country size as the main causal agents.

7.2 Conclusion

On the basis of the analysis made from respondents' perception of both Rwandans and Burundians and KII views on the subject matter assessed the relationship between refugee population activities and environmental conservation in the hosting community, we are able to conclude that the relationship between refugee activities and environmental conservation is weak. In other words, the participation of refugees in cash out activities has led to the destruction of environment features since almost all activities are strictly oriented in natural resources exploitation.

7.3 Recommendations

Under the present section, advices for any gained significant change on subject matter are provided. We are of holistic view that conserving environment is a solid response towards healthy life. Therefore, a successful implementation of the suggestions forwarded below to the concerned authorities (Mahama Camp Management and partnering departments) and scholars will lead to desirable environmental conservation.

As found in the first objective, refugees are disbursed in any business sector which result into disorganised distribution of raw materials. There should be a strategy of formulating refugee cooperatives in their respective business sector to help know the quantity of raw materials needed so that they can find way of distributing them without exploiting natural resources in the densely populated area to create long lasting negative impact on the next generation meanwhile uplifting their willingness to stay in the country enjoying the beauty of nature surrounds them.

Concerning the second research objective, the study suggests that both communities (Rwandans and Burundians) must come together to conserve the environment features via community work "Umuganda" to increase the number of plants and replacing the dead ones by also training them that the importance of environment is to help living things having prosperous life full of natural benefits other than being a source of raw materials for their businesses and living style.



Ultimately, the limitations of the study enabled us to suggest further research on the contribution of refugee population in local host community development counting for the moderating factors refugee entrepreneurship skills and experience in profit making activities.



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9 Annexes

9.1 Research Questionnaires for Mahama Refugee population

PROCLAIMED CONSENSUS STATEMENT TOWARD RESPONDENTS

Dear Respondent,

We, KIBERINKA Jacky and MUSABWAMANA Viviane are undertaking the survey for the completion of our Master's degree in International Cooperation and Humanitarian Aid with KALU-INSTITUTE-Humanitarian Study Center, domiciled in Spain.

This survey is purposively intended to explore **the influence of refugee camps to the surrounding communities in developing economies with reference to Mahama camp present in Kirehe district, Rwanda.** We would like to let you be part of this survey as your contribution to respond to this questionnaire assuring you that your responses will be kept confidential and that in case we quote some part of this interview in our report, we won't disclose anyone's identity whether name or official title, though generalization can only work.

Looking forward to your significant collaboration.

Yours faithfully,

Instructions: -This paper consists of two parts

-Answer by tick where appropriate

PART ONE: DEMOGRAPHIC CHARACTERISTICS

a) Sex:

- Male
- Female

b) Age category:

- 18-30
- 31-40
- 41-50
- 51 and above

c) Settlement period in Mahama camp

- Less than two years
- Between two and four years
- Between four and six years

d) Education level attained

- None
- Primary education
- Secondary education
- Informal vocational skills training
- Higher institution education

e) Nationality

- Burundian
- Any other (Specify) _____



Part two: Assessment of the activities/practices involved refugee population in Mahama

Prior thinking about the environment problems that hosting communities are experiencing, the study wanted to reveal the occupation of refugees in Mahama sector in order to know whether those activities might affect the environment in positive or negative way. Therefore, the following questions are to search for the topmost activity attended by refugees for making money and also bring development and reveal their intention about environmental issues in Mahama sector.

1. Indicates the area of activity in which you are playing the most active role as your income generating activity you have been involved in to make money and feed your household members
 - a. Crop production
 - b. Livestock production
 - c. Land exploitation (mining)
 - d. Forest exploitation (burning charcoal and or carpentry)
 - e. Technology
 - f. Business Enterprises
 - g. Construction (engineering)
 - h. Any other (specify)_____

2. What is your general observation about the level of environmental degradation in Mahama?
 - a. Lower level
 - b. Middle level
 - c. Upper level

3. From your personal experience, what do you consider as the denominator factor of environmental degradation in Mahama?
 - a. Population growth rate
 - b. Lack of strong environment control policy and measures in the local community
 - c. Disorganized settlement structure
 - d. Mechanized agriculture system used
 - e. Excess demand over natural resources

4. Are resources concerning your business activity available at a pleasant extent with the affordable cost?
 - a. Yes
 - b. No
 - c. Rarely

5. States the contribution of your daily business activities to the growth and development of country's economy
 - a. Levied taxes are provided as a revenue to the government
 - b. Offer job opportunity to the local community
 - c. Raw materials needed are bought from local community
 - d. New markets are opened
 - e. Enlarge economies of scale



- f. Stabilize the demand and supply for local goods at market
- g. Reinforce the innovation and invention sector
6. Among the provided environment driving features, show the primary source of raw materials browbeaten by your business activity to boost income
- a. Forest
- b. Water
- c. Land
- d. Processed materials like metals and other related objects
7. As a co-partner to maintain environmental safety, indicate the state of your contribution towards environment rehabilitation to revive environmental features within and around the camp
- a. Partnering with environment club operates in this sector in all programs aimed at reviving the nature of environment
- b. Report any person try or attempts to destroy environmental features
- c. Training and reminding people we meet the importance of environment so that they should keep them safe within and around the camp
- d. Providing my contribution in trees plantation program in deserted areas
- e. Ensuring proper management of all kinds of waste
- f. Using advanced system like gas stove during cooking to avoid spreading harmful gas to the atmosphere
- g. Shifting mechanized agriculture system to capital extensive technology involve land use consolidation for soil conservation and protection against erosion and poor production
8. Nowadays of COVID-19 pandemic, water has been put on top of the other facilities to fight against the current pandemic yet it is also part of environmental features. Let us know how water sanitation program is ongoing during this world situation and how water distribution is rated in your sector as a denominator factor to maintain the safety of environment
- a. The population have full access on pure water in this region with tap established in every hundred meters of distance
- b. During sunny season, for the maintenance of environment all plants are irrigated to blow flesh air in the community
- c. There is hand washing stations at every point of meeting the crowd people like at the entrance of the market, schools and hospitals
- d. There is river nearby this camp so that our plants are irrigated from when necessary to ensure that they remain green in all seasons
- e. Dirty water caused diseases like diarrhea are at low extent in this sector due to decentralized pure water by the government
- f. Any other, Specify_____
9. Satisfying refugee needs including alleviating their sufferings and ensuring desired protection is a challenging issue to the host community which result into unproductivity of refugee population, what is your decision according to the life condition in Rwanda?
- a. Voluntary repatriation

- b. Resettlement
- c. Local integration

10. From the demonstrated challenges facing refugees in their business career, indicate the most one that restricted your intended business to develop since the Government had rules and regulations governing business conducting in the country including initial capital as basic requirement.

- a. Lack of collateral security to present as guaranty to ask for credit
- b. Inaccessibility to land for agro-based activities
- c. Failure to meet registration enclosures required prior to start business
- d. Restricted access to freely conduct business legally
- e. Social conflicts when it comes to share resources
- f. Nationality issue poses some inconveniences when requesting a loan
- g. Any other, state below in brief

.....
.....

Thank you for your contribution!



SURVEY FORM GUIDE FOR HOUSEHOLD REPRESENTATIVES PROCLAIMED CONSENSUS STATEMENT TOWARD RESPONDENTS

Dear Respondent,

We, KIBERINKA Jacky and MUSABWAMANA Viviane are undertaking the survey for the completion of our Master's degree in International Cooperation and Humanitarian Aid with KALU-INSTITUTE-Humanitarian Study Center, domiciled in Spain.

This survey is purposively intended to explore **the influence of refugee camps to the surrounding communities in developing economies with reference to Mahama camp present in Kirehe district, Rwanda.** We would like to let you be part of this survey as your contribution to respond to this questionnaire assuring you that your responses will be kept confidential and that in case we quote some part of this interview in our report, we won't disclose anyone's identity whether name or official title, though generalization can only work.

Looking forward to your significant collaboration.

Yours faithfully,

Instructions: -This paper consists of two parts

-Answer by tick where appropriate

PART ONE: DEMOGRAPHIC CHARACTERISTICS

a) Sex:

- Male
- Female

e) Nationality

- Rwandese
- Any other (Specify)_____

b) Age category:

- 18-30
- 31-40
- 41-50
- 51 and above

c) Settlement period in Mahama sector

- Below two years
- Between two and five years
- Six years and above

d) Education level attained

- None
- Primary education
- Secondary education
- Informal vocational skills training
- Higher institution education



Part two: Evaluating the achieved and targeted level of conserving environment in Mahama

In correspondence with the assessment completed by refugees regarding their daily occupation in Mahama, this section is therefore aims to deeply evaluate the co-currency of those activities and environment conservation. In this sense, primary sectors of activities and their associated impacts towards the environmental health are pre-determined. Based on your personal experience on environment of Mahama, indicate the impacts of refugee's activities associated with environment health in your location

11. To a given extent, whether in indirect or direct way businesses deteriorate the nature environment features in terms of raw materials, waste materials and realized gazes. Indicate a business activity that is most likely to contribute high in environmental degradation in this area when it is practiced under mechanized system

- a. Crop production
- b. Livestock production and animal rearing
- c. Land exploitation (mining)
- d. Forest exploitation (burning charcoal and or carpentry)
- e. Technology
- f. Business Enterprises
- g. Construction (engineering)
- h. Any other (specify) _____

12. The absence of some features result stronger effects than others due to their nature of importance. Please, indicate the primary effect associated with and surround the camp once there is damage of some environment features like cutting down trees, burning charcoal, and using poor agriculture method

- a. The region receive insufficient rainfall
- b. Air pollution result into Global warming
- c. Decrease of productivity from agriculture due to mechanized agriculture system that destroy soil fertility
- d. Natural disasters like soil erosion resulted
- e. The communicable diseases easily multiplied in the Sector due to high population density
- f. Extreme temperatures associated with the region due to absence of plants

13. Mostly, refugees are excluded to gain some interest in society they live in though they are always blamed to bring externalities and bad luck for some advantages people think should have come when they did not host them. Describe how refugees have been become barrier to the development of Mahama by making all needs scarce in the community.

- a. They are indicators of increase of price at a market place
- b. They are burden to the host community in terms of social needs like health service
- c. They make shorter the speed of the development in the community due to high demand
- d. They cause insecurity due to increased prostitutions and thieves
- e. They make market product scarce due to high demand
- f. Good drivers of deforestation due to seeking accommodation
- g. They are contributors to population growth
- h. Empower product competition at market place
- i. New service providers in the community
- j. They decrease labor competition in the community
- k. They have promoted innovation and invention skills
- l. Any other, specify _____

14. Is there any campaign aimed at rehabilitating environment in this region?

- a. Yes
 b. No

15. As a co-partner to maintain environmental safety, indicate the state of your contribution towards environment rehabilitation to revive environmental features around the camp

- a. Partnering with environment club operates in this sector in all programs aimed at reviving the nature of environment
 b. Report any person try or intend to destroy environmental features
 c. Training and reminding people we meet the importance of environment so that they should keep them safe within and around the camp
 d. Providing my contribution in trees plantation program in deserted areas
 e. My neighbors are often remind to have proper management of all kinds of waste
 f. Using advanced system like gas stove during cooking to avoid spreading harmful gas to the atmosphere
 g. Shifting mechanized agriculture system to capital extensive technology involve land use consolidation for soil conservation and protection against erosion and poor production

16. Government is on the front line to strive for proper management environment by setting up the protection measures against deterioration and drawing a plan for making exists where they have never been before. Kindly state the government intervention to maintain and sustain environment health in your location.

- a. There are appointed agencies responsible for monitoring all ongoing activities involve some features of environment
 b. Each and every activity need to be undertaken is checked and assess for its effect toward the environment
 c. There is special code of conduct the one must comply with when there is need to exploit any feature like forest or land in Mahama
 d. The government expected fines and penalties for people like poachers and kidnappers for environment perseverance purpose
 e. The government subsidizes Non-government Organizations intended to preserve the nature of environment in Mahama
 f. For the purpose of natural resources management, cooperative strategy must function for equal accessibility and distribution of basic needs

17. The influx of refugees in the community leads to infrastructure system and development process amendment. In fact, Refugees can be settled either by self or camp settlement and usually camp settlement precipitates environmental problems through day-today operations with their hosts. Using the prescribed statement below, tell us how camp settlement had put in danger the health of local population in villages connected to the camp.

- a. The flow of dirty water outside the camp generated parasites that cause diseases like high-fever malaria
 b. Clearing land for the camp area decreased supply sources and leads to scarcity of biomass resources
 c. Camp settlement facilitated harmful gas concentration that contaminate air in the region
 d. Deforestation in Mahama constrained the loss of some plants and animal species
 e. Because of densely populated system, Sexually transmitted diseases including HIV/AIDS is affected by many people due to increased sexual activities

18. After realizing the forest deterioration by the government of Rwanda, they chosen to lift higher the value of trees through mobilizing reforestation program across the country. Show your participation level in reforestation campaign in Mahama

- a. Regular attendance in monthly community works “UMUGANDA” established by the government like shelter construction in refugee camp to overcome overcrowd among refugee families
- b. Respecting environmental treatment guidelines set by respective bodies including not walking in the garden nor cutting down tree without authorization
- c. Assisting the government to remind refugees the benefits of maintaining environmental safety when one intend to misapply the established rules
- d. Timely report for bad conduct toward the environment structures
- e. Voluntary mobilization to the neighboring families on the supreme interest we gain when there is sustainable protection regime of environment
- f. Contributing my efforts to rehabilitate environment through attending environment club operates within the sector
- g. Any other, Specify _____

19. The mobility of labor in or outside the sector can influence the distribution of resources in comparison with demand and supply of such resources. According to you, what are the indicators of population growth in your location?

- a. Demand is higher than supply
- b. Increased unemployment rate
- c. Starving for some families due to prolonged drought
- d. Unplanned displacement of people seeking foods for their families
- e. Higher price for market products
- f. Increase of infant mortality rate
- g. Groups of bandits formation due to extreme hungry
- h. Any other, Specify _____

20. In the way forward to rehabilitate and maintain environmental safety, what do you think is a durable solution for the government and responsible departments to achieve and sustain environment health within and around Mahama camp?

- a. The government should build permanent shelters to avoid daily cutting down of trees seeking temporary shelters
- b. There is need to mobilize population and teach them the importance of using gas stove when engaged in cooking to reduce deforestation rate
- c. The government and responsible bodies should put in place serious punishment for the crimes of environment nature impairments
- d. Given the high rate of population growth in Mahama, there should be a well-designed settlement system indicating place for settlement and area reserved for environmental prevalence and care
- e. Improvement is needed in coordinating environment-oriented activities to enhance monitoring and reporting those who attempts to disobey environment preventive measures
- f. Integrating refugees in the monthly community works “UMUGANDA” in the way up to persist the existence of environment features in the community
- g. To develop strong communication channel where people should be able to report anyone with bad conduct towards the environment
- h. Urban settings shall be adjusted and inserted waste correction sites for proper management of waste and soil protection

21. Nowadays of COVID-19 pandemic, water has been put on top of the other facilities to fight against the current pandemic yet it is also part of environmental features. Let us know how

water sanitation program is ongoing during this world situation and how water distribution is rated in your sector as a denominator factor to maintain the safety of environment

- a. The population have full access on pure water in this region with tap established in every hundred meters of distance
- b. During sunny season, for the maintenance of environment all plants are irrigated to blow fresh air in the community
- c. There is hand washing stations at every point of meeting the crowd people like at the entrance of the market, schools and hospitals
- d. There is river nearby this camp so that our plants are irrigated from when necessary to ensure that they remain green in all seasons
- e. Dirty water caused diseases like diarrhea are at low extent in this sector due to decentralized pure water by the government
- f. Any other, Specify _____

Thank you for your contribution!!!



9.2 INTERVIEW GUIDE

PROCLAIMED CONSENSUS STATEMENT TOWARD RESPONDENTS

Dear Respondent,

I thank you very much on behalf of KIBERINKA Jacky and MUSABWAMANA Viviane who are undertaking this survey for the completion of their Master of International Cooperation and Humanitarian Aid with KALU-INSTITUTE-Humanitarian Study Center, domiciled in Spain.

This survey is purposively intended to explore **the influence of refugee camps to the surrounding communities in developing economies with reference to Mahama camp present in Kirehe district, Rwanda.** Therefore, We would like to let you be part of this survey as your contribution to allow your time for responding to fewer questions focusing on the advantages and disadvantages of hosting refugees in the community assuring you that your responses will be kept confidential and that in case we quote some part of this interview in our report, we won't disclose anyone's identity whether name or official title, though generalization can only work.

KII Questions:

1. With empirical evidences, would you prove the positive contribution of hosting refugees in the community?
2. Can you explain the extent to which refugees are making substantial business investments in the following sub-sectors:
 - a. Crop production
 - b. Livestock production and animal rearing
 - c. Land exploitation (mining)
 - d. Forest exploitation (burning charcoal and or carpentry)
 - e. Technology
 - f. Business enterprises
 - g. Construction (engineering)
 - h. Any other, Specify_____
3. How do you rate the contribution of refugee population to the local economy and why?
4. As a government of Rwanda, how do you integrate refugee population in profit oriented businesses to contribute their efforts in the development of the country
5. What are the competitive advantages gained by refugee population over locals?
6. What are the environmental problems caused by hosting refugees in the community?
7. Are available natural resources satisfactory to the demanding population? If not, what is the working strategy you have adopted to distribute them to the refugees and neighboring population?
8. What is the contribution of refugees to restore the environment health within and around the camp?
9. What challenges/barriers hosting refugees to the surrounding community in terms of social, economic and environmental aspects and what do you think can be solution to overcome them?

9.3 Authorization letter for data collection



Republic of Rwanda

Ministry in charge of Emergency Management

Kigali, 15/4/2021
Ref: 0238/MINEMA/SPIU/21

Lt. Jacky KIBERINKA and Viviane MUSABWAMANA
KALU INSTITUTE – Humanitarian AID Studies
Phone: (+250) 788736090 and 788703353
E-mail: mkiberinka@yahoo.com and musaviviane@gmail.com

Dear Sir,

Re: Authorization to undertake a virtual survey in Mahama Refugee Camp.

Reference is made to your letter dated 6 April 2021 requesting the Ministry in Charge of Emergency Management (MINEMA) an authorization to undertake a virtual survey in Mahama Refugee camp in order to complete your Master's Degree in International Cooperation and Humanitarian AID with Humanitarian Studies Center- KALU Institute, present in Spain;

I have the honor to inform you that in order to avoid the spread of COVID-19 pandemic, the authorization to conduct the above survey remotely from 19 to 30 April 2021 is granted to you.

For any assistance you may require, you are advised to contact Mr. Vuganeza André, Mahama Camp Manager on 0788547530

Sincerely,

Digitally signed
by MINEMA (PS)1

KAYUMBA Olivier
Permanent Secretary

Cc:

- Honorable Minister in Charge of Emergency Management
- Mahama Camp Manager